# *GARRA PERSICA* BERG, 1913, A VALID SPECIES OF CYPRINID FISH FROM SOUTH-EASTERN IRAN

by

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**RÉSUMÉ.** – La validité de *Garra persica*, un cyprinidé retrouvé dans les provinces du Baluchistan et d'Hormozdgan dans le sud-est de l'Iran, est réaffirmée. Cette espèce était considérée comme synonyme de *Garra rufa* (Heckel). On donne une description fondée sur des exemplaires provenant de la localité-type ainsi que sur du matériel comparatif couvrant l'aire de répartition de l'espèce, qui est étendue plus de 500 km vers l'ouest jusqu'aux drainages du golfe Persique.

**SUMMARY.** – The validity of *Garra persica*, a cyprinid fish from the provinces of Baluchestan and Hormozdgan in southeastern Iran, is reaffirmed. This species has been regarded as a synonym of *Garra rufa* (Heckel). A description is given based on topotypes and comparative material from the whole range of species which is extended over 500 km westward to Persian Gulf drainages.

*Garra persica* was briefly described as a new species by Berg (1913) from seven specimens collected by N.A. Zarudnyi in south-eastern Iran. A more detailed description was given by Berg (1914) based on the same material but a holotype was not designated. The seven specimens were identified incorrectly as *Discognathus lamta* (Hamilton, 1822) by Nikolsky (1899). Six of the specimens were listed as from the Bampur River, Baluchestan in Nikolsky (1899) and Berg (1913, 1914) but Berg (1949) cited ten specimens as the type-series from this locality under the same collection number, possibly an error. The seventh specimen was collected at Kiabad in the Zirkuh region of eastern Khorasan. This locality is obscure but may be near Zir-e Kuh, a mountain at 32°48'N, 59°50'E West of the Sistan basin as Zarudnyi's (1898) itinerary indicates he was en route to Sistan on the collection date given by Nikolsky (1899) and Berg (1913) for the specimen. *Garra persica* has not been recollected in this area.

Menon (1964), in a monograph on the genus *Garra*, placed *G. persica* in the synonymy of *G. rufa obtusa* (Heckel, 1843). Saadati (1977) provisionally recognised *G. persica* as a valid species. Saadati's two specimens and a specimen from the Oregon State University, Corvallis collections examined by Armantrout (1980) differ in a number of respects from the material collected by me, particularly in scale counts, and are excluded from the present description. Saadati (1977) and Armantrout (1980) incorrectly regard the specimen from Zirkuh as the holotype but Berg's specimens are syntypes (Berg, 1949).

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The description given below is based on 12 small recently collected specimens from the type-locality and comparative material from the provinces of Hormozdgan and eastern Fars comprising 110 specimens thus extending the distribution of *G. persica* westwards to include the basins of rivers draining to the eastern Persian Gulf at the Straits of Hormoz (see Coad, 1982 for map).

Dorsal fin rays IV-7 ; anal fin rays III-4 (3 specimens), III-5 (9) ; ventral fin rays I-6 (1), I-7 (11) ; pectoral fin rays I-12 (1), I-13 (6), I-14 (4) (one specimen too small to count accurately) ; branched caudal fin rays 15 (1), 16 (10), 17 (1) ; lateral line scales to hypural fold 29 (2), 30 (1), 31 (1), 32 (2), 33 (2), 34 (2), 35 (2) ; scales above lateral line 4 (7), 5 (5) ; scales below lateral line 4 (12) ; scales between lateral line and ventral fin 3 (1), 4 (11) ; predorsal rows 11 (1), 12 (2), 13 (2), 14 (7) ; scales around caudal peduncle 12 (11), 13 (1) ; total vertebrae including urostylar centrum 34 (9), 35 (3) ; gill rakers on whole first arch 15 (in 6 specimens) ; pharyngeal teeth 2, 4, 5-5, 4, 2 (in 5 specimens).

Head length in standard length 3.7 - 4.0 (mean 3.8), body depth in standard length 4.6 - 5.2 (4.9), head depth in standard length 5.6 - 6.1 (5.9), predorsal length in standard length 1.9 - 2.1 (2.0), pectoral fin length in standard length 3.8 - 4.9 (4.4), prepelvic length in standard length 1.8 - 1.9 (1.9), head width in head length 1.4 - 1.5 (1.4), head depth in head length 1.5 - 1.6 (1.5), snout length in head length 2.3 - 2.7 (2.4), orbit diameter in head length 3.4 - 3.9 (3.6), interorbital width in head length 2.3 - 2.6 (2.5), caudal peduncle length in head length 1.4 - 1.8 (1.6), mouth width in head length, 2.4 - 3.2 (2.7), orbit diameter in interorbital width, 1.3 - 1.7 (1.4), disc length in head length 2.7 - 4.1 (3.3), disc width in head width 1.4 - 2.0 (1.6), disc length in disc width 1.4 - 1.5 (1.4), caudal peduncle depth in caudal peduncle length 1.1 - 1.7 (1.4), pectoral fin length in pectoral - ventral fin distance 1.1 - 1.6 (1.3), ventral fin length in ventral - anal fin distance 1.1 - 1.4 (1.2), anal papilla to anal fin length in ventral - anal fin distance 6.3 - 8.7 (7.3), length longest anal fin ray in longest dorsal fin ray 1.1 - 1.4 (1.2), and anal papilla to anal fin length as a percentage of ventral - anal fin distance 11.5 - 15.[illegible] (13.9).

Dorsal fin origin well in advance of ventral fin origin. Caudal fin moderately forked, dorsal fin emarginate and anal fin rounded. Gill membranes are attached to isthmus at or behind a level with the preopercular bone. Peritoneum black and gut greatly coiled. The pharyngeal teeth bear flattened crowns. Disc and rostral fold greatly papillose. Centre of disc not as papillose as margins. Rostral fold margin weakly fringed. Scales regularly arranged except on anterior portion of isthmus where absent. Pelvic axillary scale present but not always well developed. Radii numerous on all fields, focus broken up into a network of lines. Tuberculate males have a transverse depression anterior to the nostrils. Tubercles are found between the eye and nostril, around the margins of the transverse depression, below the nostril and very weakly on anterior head surface between the eyes. Not developed elsewhere.

There is a large dark spot at or just below the beginning of the lateral line on the flank behind the postero-dorsal corner of the operculum. In life this spot has a dark blue tinge. The bases of the pectoral fins are also tinged blue. The flanks are orange-brown and the fins pink. In preserved specimens there are elongate blotches lining the posterior half of each dorsal fin membrane and fading dorsally. In some fish these blotches occupy the whole membrane and are developed dorsally. Ventrally there is a gap between these blotches and 3-5 bars which originate at the posterior edge of the base of branched ray three and succeeding rays, and extend dorsally across the ray and then along the ray and the membrane to the gap. These bars are much more heavily pigmented than the dorsal blotches. The pigmentation on the caudal fin varies with the individual. Some are blotched irregularly on both rays and membranes, in others there is a trace of a band in mid-fin extending from the dorsal to the ventral margin following the posterior outline of the fin, while others have pigment heavily concentrated only in the mid-fin clear of the margins. The ventral fin has little or no pigment and the anal fin has a very few irregular light blotches on both rays and membranes. The pectoral fin is pigmented near the base dorsally with some pigment on anterior rays and membranes.

This species is clearly distinguished from other *Garra* s.s. of Iran seen by me in having a mode of 7, as opposed to 8, branched rays in the dorsal fin and a mode of 16 branched rays in the caudal fin as opposed to 17. Comparative material of *G. persica* from Persian Gulf and Hamun- e Jaz Murian drainages had 6 dorsal fin branched rays in 2 fish, 7 (106), or 8 (1) (one specimen excluded because fin was abnormally developed) and 15 branched rays in the caudal fin in 6 fish, 16 (97), 17 (3) or 18 (1) (three specimens damaged).

**Material examined.** – All specimens examined are deposited at the National Museum of Natural Sciences, National Museums of Canada, Ottawa (NMC) and further details are on file. From the type-locality : NMC 79-0312, 10 specimens, 26.6 - 35.6 mm standard length (SL), Rampur River, 8 km west of Iranshahr, 27°11'N, 60°36'E, Baluchestan ; 1 December 1977, B.W. Coad, A. Tofangdar and A. Shirazi. NMC 79-0315, 23.8 mm SL, Rampur River, 2 km north of Karvandar, 27°51'N, 60°46'E, Baluchestan ; 1 December 1977, B.W. Coad, A. Tofangdar and Shirazi. NMC 79-0324, 29.6 mm SL, Rampur River at Qasemabad, 27°11'N, 60°22'E, Baluchestan ; 4 December 1977, B.W. Coad, A. Tofangdar and A. Shirazi.

Comparative material from Hormozdgan and Baluchestan : NMC 79-0138 (1 specimen), 27°32'N, 54°58 1/2'E ; NMC 79-0139 (1), ca. 27°25 1/2'N, 54°59'E ; NMC 79-0144 (1), 27°09 1/2'N, 57°04'E ; NMC 79-0145 (4), 26°55'N, 57°01 1/2'E ; NMC 79-0149 (7), 27°36'N, 56°14'E ; NMC 79-0152 (1), 28°09'N, 55°43'E ; NMC 79-0178 (25), 27°36'N, 56°15'E ; NMC 79-0180 (1), 27°19'N, 56°17 1/2'E ; NMC 79-0181 (1), 27°17 1/2'N, 56°03 1/2'E ; NMC 79-0186 (8), 27°24 1/2'N, ca. 56° 25'E ; NMC 79-0187 (9), 27°23 1/2'N, 56°26'E ; NMC 79-329 (2), 27°02'N, 61°20'E ; NMC 79-0411 (1), 27°24'N, 57°12'E ; NMC 79-0412 (9), 27°30'N, 57°34'E ; NMC 79-0416 (39), 27°27'N, 56°18'E.

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